

### REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Applicants acknowledge with appreciation the indication in the Office Action that claims 3-7 and 11-16 are allowed.

Claims 1-16 have been cancelled in favor of new claims 17-32, which better define the subject matter Applicants regard as the invention. Support for the features recited in claims 17-32 is provided in the original claims and the specification on page 8, lines 1-8, page 16, line 11, through page 17, line 23, page 20, line 23, through page 21, line 16, page 25, line 14, through page 26, line 6, page 29, line 14, through page 30, line 7, and page 36, lines 6-10. New claims 17-32 have been drafted to avoid the indefiniteness rejections of previous claims 2 and 10.

New claims 19 and 27 recite the features identified in the Office Action as making original claims 3 and 11, respectively, allowable. The features identified as making claims 4 and 12 allowable are recited in new claims 20 and 28, respectively. New claims 21 and 29 recite subject matter identified as being allowable in original claims 5, 6, 13, and 14. Also, independent claims 24 and 32 recite the allowable subject matter of original claims 7 and 15. Therefore, new claims 19-21, 24, 27-29, and 32 and all claims dependent therefrom are believed to be in

condition for allowance, for the same reasons that claims 3-7 and 11-15 were allowed.

Claims 1, 8, and 9 were rejected, under 35 USC §102(e), as being anticipated by Pfeil et al. (US 6,252,867). Claims 2 and 10 were rejected, under 35 USC §103(a), as being unpatentable over Pfeil. To the extent these rejections may be deemed applicable to new claims 17, 18, 25, and 26, the Applicants respectfully traverse.

Claim 17 corresponds to the subject matter of original claim 1 and recites:

*A base station apparatus, which assigns a shared channel shared by a plurality of communication terminal apparatuses including a first communication terminal apparatus, the base station apparatus comprising:*

*an estimator that estimates a direction of arrival of a signal transmitted from each of the plurality of communication terminal apparatuses;*

*a determiner that determines, based on a difference between a direction of arrival of a signal from the first communication terminal apparatus and a direction of arrival of a signal from each communication terminal apparatus other than the first communication terminal apparatus of the plurality of communication terminal apparatuses, a communication terminal apparatus to which the shared channel is assigned after the first communication terminal apparatus, to determine an order of communication terminal apparatuses to which the shared channel is assigned; and*

*a transmitter that forms a directivity in the estimated direction of arrival in accordance with the determined order, and transmits a shared channel signal to each of the plurality of communication terminal apparatuses.*

Pfeil fails to disclose the features recited in claim 17 of:  
(1) determining an order for communicating, through a shared channel, in accordance with a difference between the direction of arrival of a signal received from a first communication terminal apparatus and each of a set of other communication terminal apparatuses and (2) transmitting, in the determined order, a shared channel signal to each of the communication terminal apparatuses using a directivity corresponding to the direction of arrival of the communication terminal apparatus' received signal.

The Office Action proposes that Pfeil discloses determining the direction of arrival of a signal from each of a plurality of mobile terminals (Office Action page 3, lines 5-9). Additionally, the Office Action proposes that Pfeil discloses, in column 6, line 55, through column 7, line 32, determining an assignment order of a shared channel in association with the direction of arrival information (page 3, third paragraph).

However, Pfeil discloses, in the cited portion of the specification, a base station that sequentially tunes itself to the carrier frequency of each of a plurality of mobile terminals so as to determine the direction of arrival information pertaining to the mobile terminal. Although the base station may tune to each carrier frequency according to a specific order, this order is not based on the directions of arrival of signals

from the mobile stations. Moreover, the order cannot be based on the directions of arrival of signals from the mobile stations, since the direction of arrival for each mobile terminal's signal cannot be determined until the base station tunes itself to the mobile terminal's carrier frequency.

Accordingly, Pfeil's base station does not and cannot determine an order for communicating, through a shared channel, in accordance with direction of arrival information. And more specifically, with regard to claim 17, Pfeil's base station does not determine an order for communicating, through a shared channel, in accordance with a difference between the direction of arrival information pertaining to each pair of mobile terminals. As a result, it necessarily follows that Pfeil cannot disclose transmitting, in the determined order, a shared channel signal to each of the mobile terminals using a directivity corresponding to the direction of arrival of the mobile terminal's received signal.

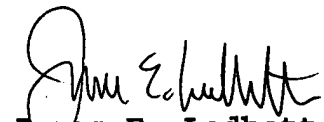
Accordingly, the Applicants submit that Pfeil does not anticipate the subject matter defined by claim 17. Claim 25 similarly recites the features distinguishing apparatus claim 17 from Pfeil, but with respect to a method. For similar reasons that these features distinguish claim 17 from Pfeil, so too do

they distinguish claim 25. Therefore, allowance of claims 17 and 25 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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